

What is claimed is:

1. An expansion valve to be equipped in an air conditioner to control the flow of a refrigerant, comprising:

a housing with a refrigerant path to which is connected a pipe communicated with various devices of the air conditioner; and

a cassette unit inserted to the housing;

the cassette unit comprising a flange member; a tube member formed integrally with the flange member; a guide member, an orifice member and an adjustment plate member fixed to an interior of the tube member; a valve member disposed within a valve chamber defined by the orifice member; a spring disposed between the adjustment plate member defining the valve chamber and the valve member, biasing the valve member toward the orifice member; a shaft member for driving the valve member; a lid member welded onto the flange member; a diaphragm sandwiched between the lid member and the flange member and defining a gas charge chamber; and a stopper for transmitting a displacement of the diaphragm to the shaft member;

the housing further comprising an internal thread formed to a bottom of an inner bore portion for mounting the cassette unit; and

the cassette unit further comprising an external thread formed to an outer circumference of the adjustment plate member.

2. An expansion valve to be equipped in an air conditioner

to control the flow of a refrigerant, comprising:

    a housing with a refrigerant path to which is connected a pipe communicated with various devices of the air conditioner; and

    a cassette unit inserted to the housing;

    the cassette unit comprising a flange member; a tube member formed integrally with the flange member; a guide member, an orifice member and an adjustment plate member fixed to an interior of the tube member; a valve member disposed within a valve chamber defined by the orifice member; a spring disposed between the adjustment plate member defining the valve chamber and the valve member, biasing the valve member toward the orifice member; a shaft member for driving the valve member; a lid member welded onto the flange member; a diaphragm sandwiched between the lid member and the flange member and defining a gas charge chamber; and a stopper for transmitting a displacement of the diaphragm to the shaft member;

    the housing further comprising an internal thread formed to a bottom of an inner bore portion for mounting the cassette unit; and

    the cassette unit further comprising an external thread formed to an outer circumference at a bottom end of the tube member.

3. An expansion valve according to claim 1 or claim 2, wherein the lid member of the cassette unit has a hexagonal planar

shape.

4. An expansion valve to be equipped in an air conditioner to control the flow of a refrigerant, comprising:

a housing with a refrigerant path to which is connected a pipe communicated with various devices of the air conditioner; and

a cassette unit inserted to the housing;

the cassette unit comprising a flange member; a tube member formed integrally with the flange member; a guide member, an orifice member and an adjustment plate member fixed to an interior of the tube member; a valve member disposed within a valve chamber defined by the orifice member; a spring disposed between the adjustment plate member defining the valve chamber and the valve member, biasing the valve member toward the orifice member; a shaft member for driving the valve member; a lid member welded onto the flange member; a diaphragm sandwiched between the lid member and the flange member and defining a gas charge chamber; and a stopper for transmitting a displacement of the diaphragm to the shaft member;

the cassette unit further comprising an external thread formed to an outer circumference of the adjustment plate member; and

the expansion valve further comprising a plug member inserted to a bore portion formed to a bottom of the housing, the plug member having an internal thread to be screwed onto

the external thread of the adjustment plate.